

ABSTRACT

A method for generating switch matrix unit programming for switch matrix units of a cross connect device includes the step of obtaining information that identifies an input port of the cross connect device and a desired output port of the cross connect device for connecting to the identified input port. The method further includes identifying a pathway from a switch matrix unit in the cross connect device that provides the identified input port to a switch matrix unit in the cross connect device that provides the desired output port. The method further includes determining that sufficient channels exist in the identified pathway to allow a connection from the identified input port to the desired output port. Also, the method includes identifying specific channels in the identified pathway to allow a connection from the identified input port to the desired output port. In addition, the method includes storing in a programming data structure information identifying connections that have to be made in a plurality of switch matrix units in the cross connect device to allow the connection from the identified input port to the desired output port.

A digital cross connect system is provided that includes a switch matrix subsystem comprising a plurality of switch matrix units in a CLOS arrangement in multiple stages. The digital cross connect system also includes a plurality of subsystem input ports associated with the switch matrix subsystem and a plurality of subsystem output ports associated with the switch matrix subsystem. In addition, the digital cross connect system includes switch matrix unit programming that instructs the switch matrix units to generate specific internal cross-connections that allow one or more input signals present at one or more subsystem input ports to be connected to one or more subsystem output ports.